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**PEDESTRIAN HEART GAS MAIN DIVERSION**

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**Responsible Cabinet Member(s) - Councillor John Williams, Leader**

**Responsible Director(s) - John Buxton, Director of Development and Environment**

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**Purpose of Report**

1. To explain the circumstances in which an unexpectedly shallow gas main was found during the course of the Pedestrian Heart works and to seek the release of the funding necessary to enable the scheme to progress.

**Background**

2. The works to the Pedestrian Heart have been planned for some considerable time and during the planning period information was obtained from all of the utility companies that have underground infrastructure passing through the town centre. There are unsurprisingly, significant services that pass through the town centre and these include large diameter gas pipes.
3. The plans provided by Transco showed the approximate location of the pipes and the depth at which they had been laid and based on these plans the conclusion was reached that the vast majority of pipes and other underground services were not going to interfere with the proposed works within the town centre. There were some diversions prior to works commencing that were undertaken by Northumbrian Water and also by Balfour Beatty on behalf of United Utilities, who now operate the gas network.
4. In order to verify the information supplied on the utility plans it was decided to also commission a survey, using radar, that is generally able to pinpoint both depth and location of major service pipes. Whilst it would also have also been possible to dig a large number of trial pits and trenches across the carriageways it was considered this would be unnecessarily disruptive to traffic and that the ground radar would provide sufficient information to verify the information supplied on the utility plans. However, as with any survey that does not physically expose underground services they are not guaranteed to be 100% accurate. The ground survey results were similar to those supplied by the utilities and there was sufficiently close correlation for it not to cause concern to the engineers who were responsible for advising on the advance works that would be required to enable the Pedestrian Heart works to proceed smoothly. Utilities make it clear that they accept no liability for any information they supply. The ground radar survey results also come with a disclaimer as the survey method is not 100% accurate.

5. Unfortunately on 31 January 2006 an excavator working adjacent to the Joseph Pease statue hit and damaged a cast iron gas pipe. This gas pipe was at about half the depth that had been indicated on both the utility plans and the ground radar survey and it was immediately apparent that this pipe was going to interfere with the proposed works to repave the area of ground around Joseph Pease statue at Prospect Place.
6. The pipe in question is 12” in diameter and was originally laid in 1900 and runs right through the town centre from the Northgate roundabout, under Northgate, Prebend Row, West Row and Blackwellgate. The pipe also connects to an 18” gas main that is laid at a depth of just over 1 metre under Tubwell Row.
7. Urgent meetings with United Utilities and their nominated contractor for gas main work, Balfour Beatty, have been held and all possible options for addressing the problem created by the cast iron gas pipe have been explored. Methods explored include inserting a polyethylene pipe into the existing gas main, boring a new gas pipe adjacent to the existing pipe, cutting off the pipe and re-supplying from other pipes within the existing gas network and digging open trench and laying a new pipe in proximity to the existing one.
8. In addition to looking at whether or not the gas main should be diverted a review of the design of the Pedestrian Heart scheme was undertaken to assess whether it could be redesigned to avoid having to divert the gas main. The scheme as designed has small changes of level which in parts of West Row and Prebend Row will actually lower the ground level which would put the pipe even closer to the surface and would interfere with the foundations for the new road surfaces. The considerable increase in levels required to provide sufficient cover to the pipe to enable the foundations and the new pavement materials to be constructed was such that it was not possible to redesign the scheme to avoid diverting the gas main.
9. Of all the options considered the only one that can be implemented is to lay a new pipe from Binns corner at Blackwellgate to Prospect Place. The new pipe will be polyethylene with six major connections needed as part of the process. The majority of the work will require an open trench with excavations at each connection.
10. A minority of the new pipe will be inserted into a redundant 18” cast iron gas pipe that runs under West Row at a sufficient depth for it to be safe.
11. United Utilities and Balfour Beatty are reprogramming other required work to ensure that the diversion works for this gas main can be undertaken as a high priority and work has already commenced to the first of three phases to replace the gas main.
12. The estimated period of time required to undertake the diversion of the gas pipe is 20 weeks, however it is probable that this will be shortened to 16 weeks by extending the working week and by Balfour Beatty having a second team on site whenever required.
13. As a consequence of finding the gas pipe the programme of works for the Pedestrian Heart has been disrupted as there was significant work to be undertaken around the Joseph Pease statue during February, and the cast iron gas pipe currently goes under the area for the water feature and where granite planters are to be installed along the part of West Row currently being repaved by Birse.

14. The programming of the gas main diversion is not easy given that bus and service vehicles need access to the road network that will be affected by the diversion route for the gas main whilst progress is maintained with the Pedestrian Heart scheme. The consequential reprogramming required for the Pedestrian Heart works is still to be completed and rather than the whole programme be extended by the length of time it takes to complete the diversion works a resequencing of work not affected by the gas main and also looking at six day working (avoiding Saturdays) is currently being mapped out. The consequential reprogramming and delays are going to have significant cost and everything possible to reduce this cost is being examined.
15. The predicted range of cost for both the diversion of the gas main and consequential reprogramming of the Pedestrian Heart works is expected to be in the range of £680,000 to £780,000.
16. The gas main diversion works have an estimated cost of £280,000 and the cost of reprogramming and delay is expected to be in the order of £400,000 although the programming costs may be up to £500,000 if it is not possible to shorten the period of delay from the 20 weeks as referred to earlier in this report.
17. The whole scheme has been reviewed to assess whether any elements can be removed from the scheme that can save money, without impacting on the overall quality and design of the scheme. The proposed chronological lighting to buildings is one part that could be omitted from the scheme and would produce a saving of around £140,000 without compromising the quality of the paving scheme. If this was removed then work would be done to establish if there were other opportunities for funding this lighting at a later date.
18. Whilst the gas pipeline is owned by United Utilities and is at a shallower depth than had been indicated all utilities require developers to fund diversion works for utility services, no matter what the impact that their service is having on development. The only exception is when a planned renewal is undertaken as part of a development. The 12" gas main would have at some point in the future needed to be replaced with a polyethylene pipe, but United Utilities have 30 years to complete the programme of replacement. The replacement programme is undertaken in five year cycles and based on a risk assessment that gives a risk score to every cast iron gas pipe in the country. United Utilities are now replacing, in the current five year cycle, gas pipes with a risk rating of around 200. The 12" pipe through Darlington has a very low risk rating between 12 and 16. United Utilities estimate it would be around 25 years before this gas main would have come into the planned programme for replacement. Although the gas main is at a shallower depth than anticipated it was protected by the granolithic concrete of the road foundations and has not presented any significant problems in its 106 year life. In these circumstances United Utilities are unable to contribute, other than a relatively small discount, to the cost of replacing the cast iron gas main by way of diversion using a polyethylene pipe. The full cost of the diversion does have to be borne by the Borough Council.

### **Outcome of Consultation**

19. The Town Centre Forum and individual businesses have been informed of the gas main and the possible effect on the works but as details of the programme for the gas main diversion and the re-programming of the Pedestrian Heart scheme are confirmed, businesses and the public will continue to be kept informed with up to date information.

## **Financial Implications**

20. The recommended expenditure can be accommodated within the time frame of the capital medium term financial plan. Dependent upon the achievement of planned asset disposals, slippage and delivery of other schemes within budget, it is anticipated that this expenditure will be financed by capital receipts. If this is not achievable in the short term the expenditure will be financed by prudential borrowing. The equivalent annual financing cost over forty years is £33,600.

## **Legal Implications**

21. This report has been considered by the Borough Solicitor for legal implications in accordance with the Council's approved procedures. There are no issues which the Borough Solicitor considers need to be brought to the specific attention of Members, other than those highlighted in the report.

## **Section 17 of the Crime and Disorder Act 1998**

22. The contents of this report have been considered in the context of the requirements placed on the Council by Section 17 of the Crime and Disorder Act 1998, namely, the duty on the Council to exercise its functions with due regard to the likely effect of the exercise of those functions on, and the need to do all that it reasonably can to prevent, crime and disorder in its area. It is not considered that the contents of this report have any such effect.

## **Council Policy Framework**

23. The issues contained within this report are required to be considered by Council.

## **Recommendation**

24. Council are requested to:
- (a) omit the chronological lighting from the current programme of work for the Pedestrian Heart thus release funding of £140,000 towards the gas main costs;
  - (b) approve additional funding up to a maximum of £640,000 for the diversion of the gas main and consequential reprogramming.

## **Reasons**

25. The recommendations are supported to enable the construction of the Pedestrian Heart scheme to proceed in accord with the scheme that has been designed and approved.

**John Buxton**  
**Director of Development and Environment**

## **Background Papers**

No Background papers were used in the preparation of this report.

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